

FIG.1

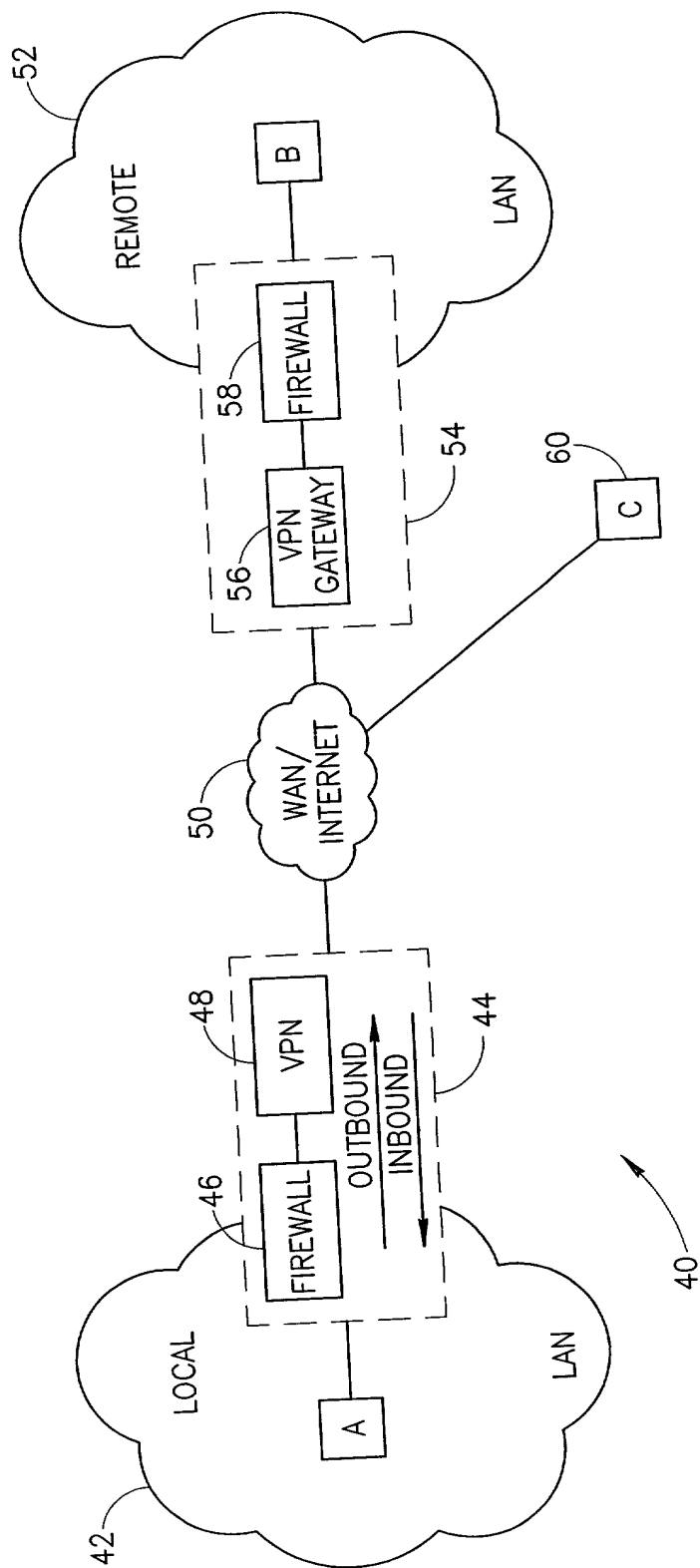


FIG.2

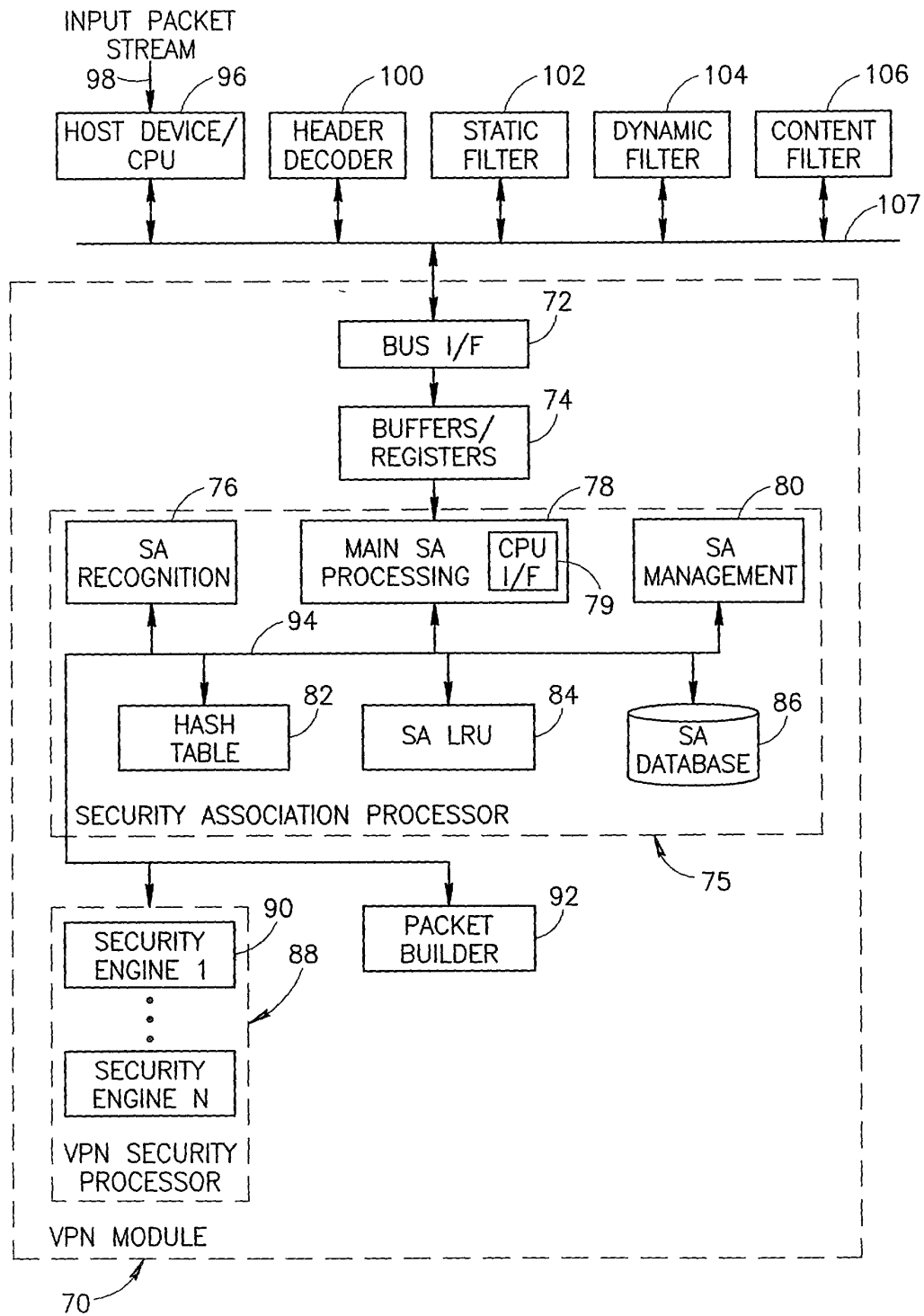


FIG.3

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graph TD
    Start([MAIN SA  
PROCESSING METHOD]) --> 110{INBOUND PACKET ?}
    110 -- YES --> 112[PERFORM SECURITY  
ASSOCIATION RECOGNITION]
    110 -- NO --> 154{SA FOUND ?}
    112 --> 114{IPSEC MODE FAIL ?}
    114 -- YES --> A
    114 -- NO --> 116[PASS UPPER FLAGS  
TO ED, HMAC AND  
PACKET BUILDER]
    116 --> 118[PERFORM ANTI REPLAY  
WINDOW METHOD]
    118 --> 120{SA IS AH ?}
    120 -- YES --> A
    120 -- NO --> 122{INBOUND PACKET ?}
    122 -- YES --> 124{CBC ?}
    122 -- NO --> 128[PASS ESP KEYS]
    124 -- YES --> 126[PASS IV TO ED]
    124 -- NO --> 128
    126 --> 128
    128 --> 130{ESP/AU PACKET ?}
    130 -- YES --> A
    130 -- NO --> 132{ESP PACKET ?}
    132 -- YES --> C
    132 -- NO --> 136{INBOUND  
PACKET ?}
    136 -- YES --> 137[SWITCH  
POINTER  
TO AH SA]
    136 -- NO --> D
    137 --> 118
    154 -- YES --> 156[PASS UPPER FLAGS  
AND MTU TO ED,  
HMAC AND PB]
    154 -- NO --> D
    156 --> 158[PASS SOCKET TO  
PACKET BUILDER]
    158 --> 160[READ SEQUENCE  
NUMBER AND  
LIFETIME FROM  
SA DATABASE]
    160 --> 162{CHECK SEQUENCE  
NUMBER AND LIFETIME}
    162 --> 164{REJECT}
    162 -- CONT. PROC. --> 162
    164 --> 166[CLOSE SA]
    166 --> D

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D

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graph TD
    A --> B
    B --> 148[PASS AH KEYS]
    148 --> 150{INBOUND PACKET ?}
    150 -- YES --> 134{INBOUND PACKET ?}
    150 -- NO --> 142[STORE SEQUENCE NUMBER]
    134 -- YES --> 140[STORE ARW]
    134 -- NO --> 138{CBC ?}
    138 -- YES --> 139[STORE IV]
    138 -- NO --> 142
    140 --> 142
    139 --> 142
    142 --> 144[UPDATE LOWER FLAGS]
    144 --> 152[REJECT PACKET]
    144 --> 146[UPDATE STATUS REGISTER]
    168[REJECT PACKET] --> 152
    146 --> END([END])
    152 --> A

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END

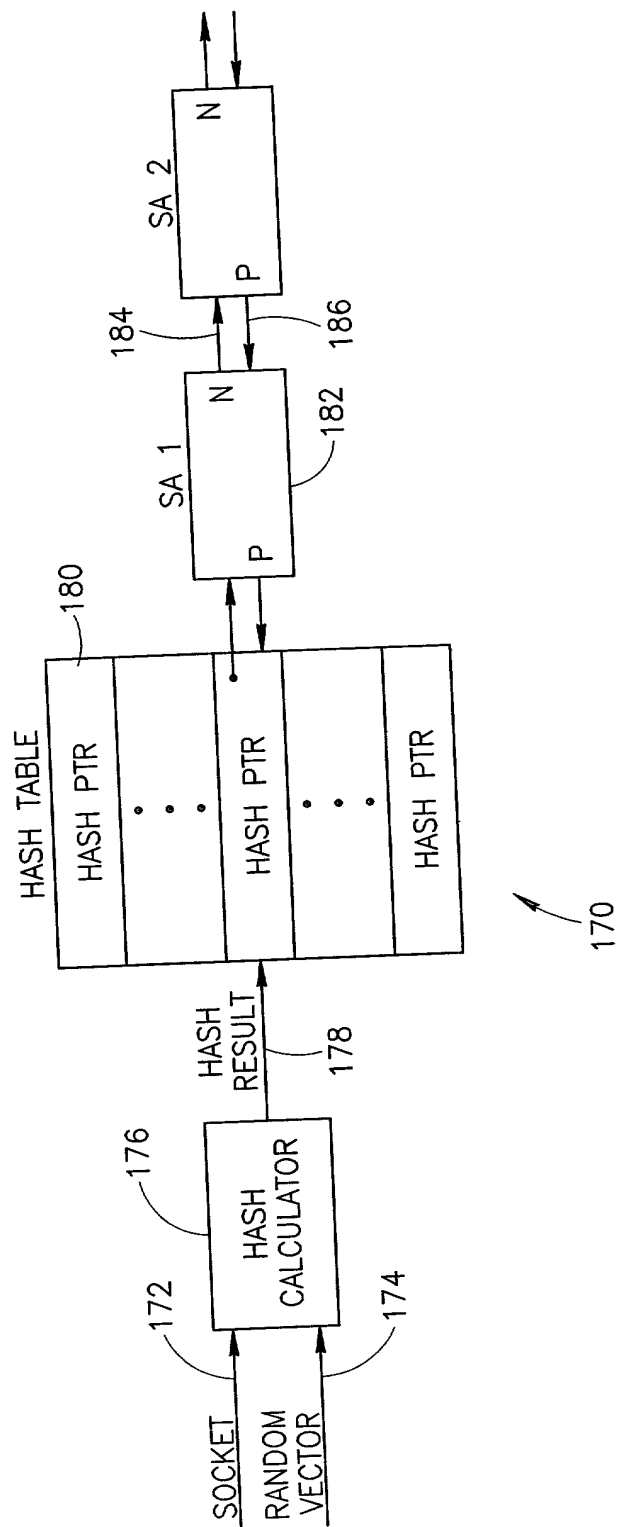


FIG. 5

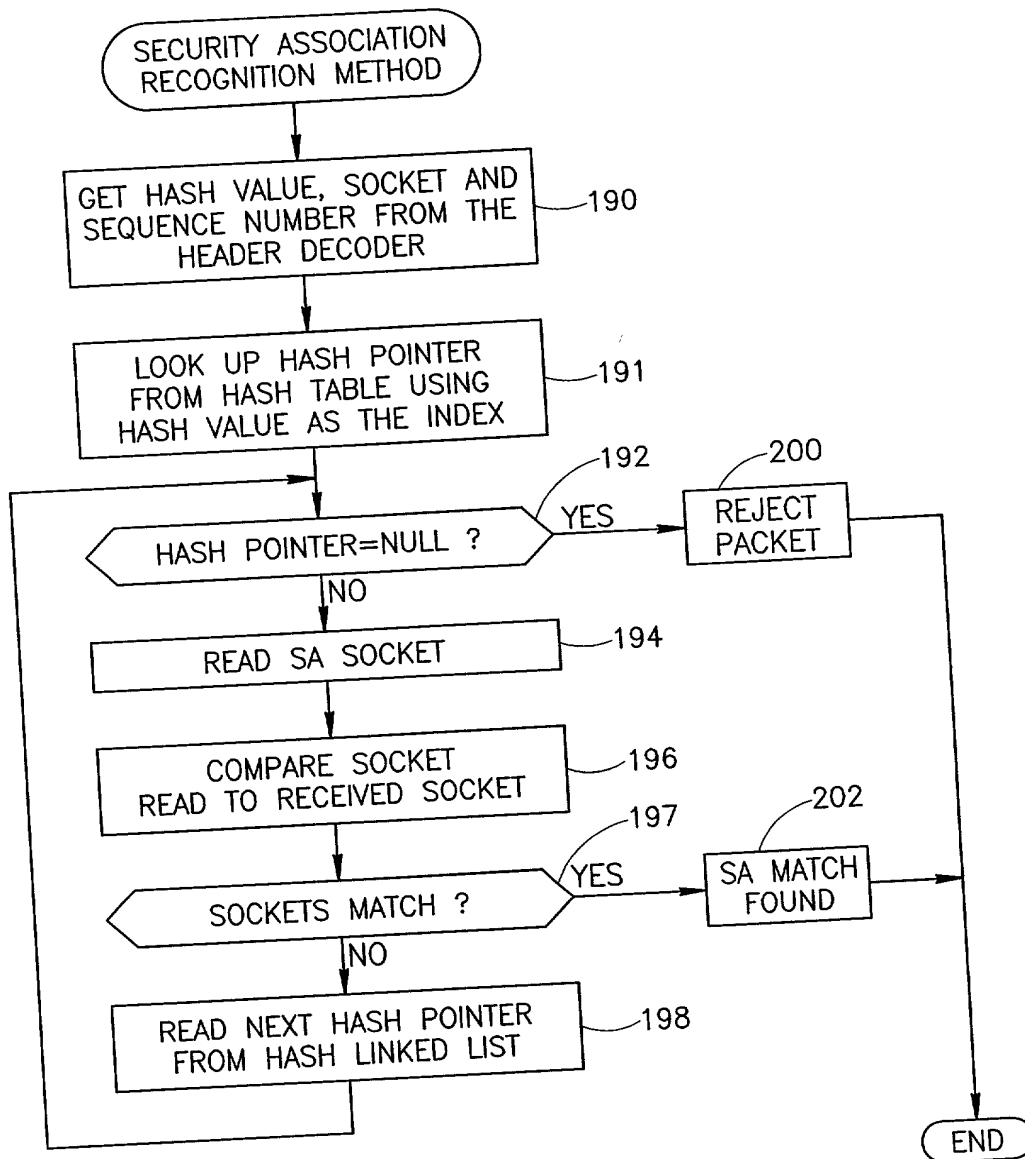


FIG.6

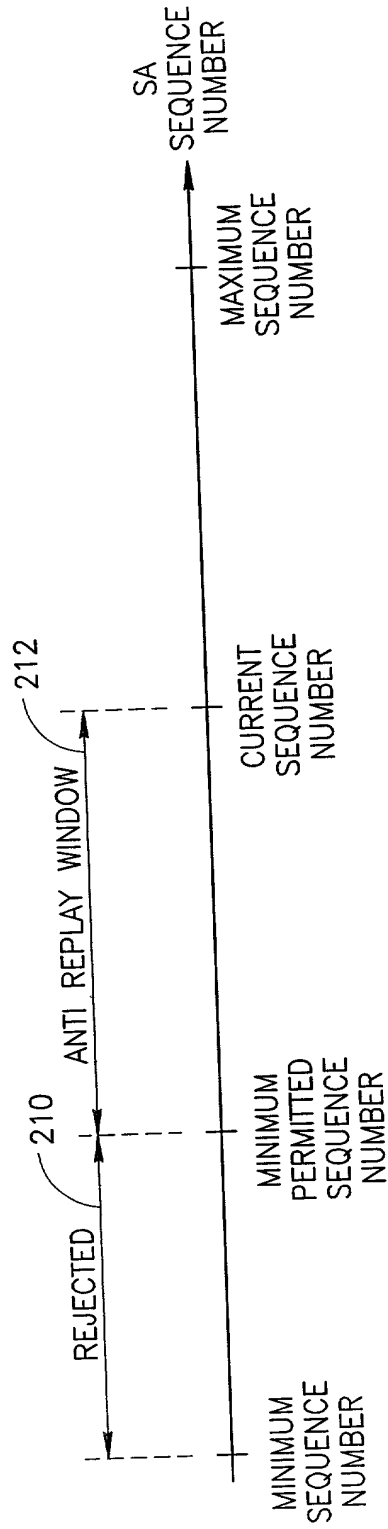


FIG. 7

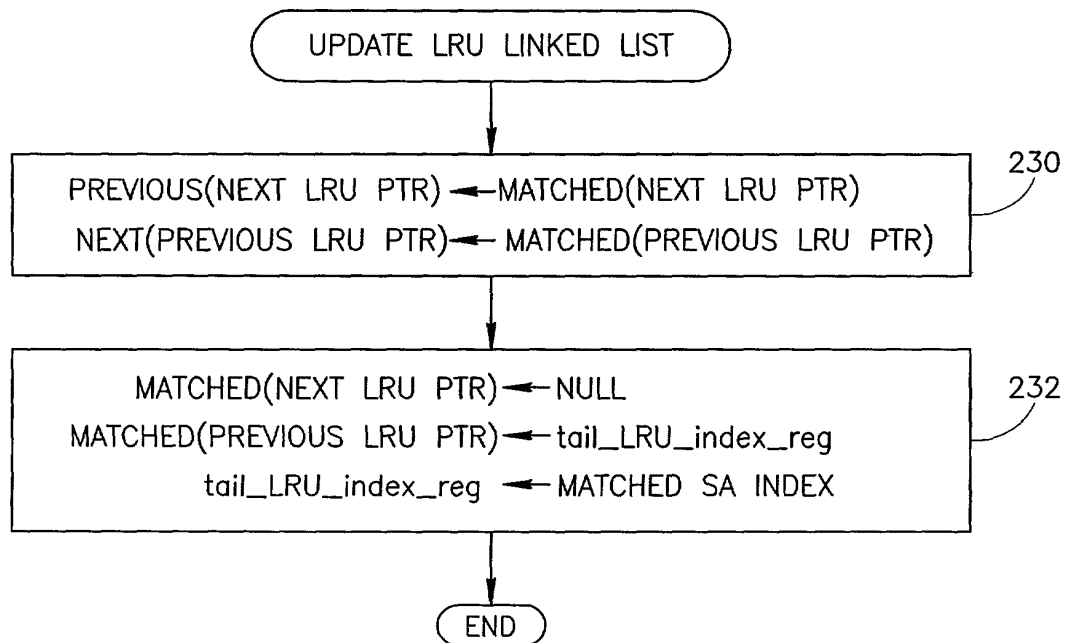
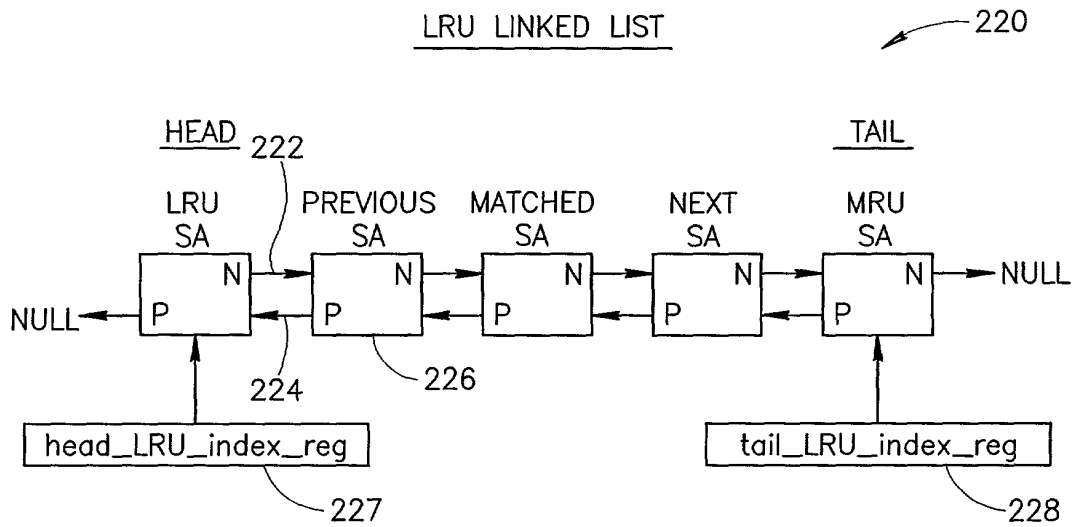


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graph TD
    Start([ANTI-REPLAY WINDOW METHOD]) --> 280[READ SEQUENCE NUMBER]
    280 --> 282[READ ANTI-REPLAY WINDOW]
    282 --> 284{SEQUENCE NUMBER WITHIN WINDOW ?}
    284 -- YES --> 286{SEQUENCE NUMBER ALREADY RECEIVED ?}
    284 -- NO --> 288{SEQUENCE NUMBER AHEAD OF ARW IN THE TUTURE ?}
    286 -- YES --> 288
    286 -- NO --> End([END])
    288 -- YES --> 290[REJECT PACKET]
    288 -- NO --> End
    290 --> End

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FIG.8



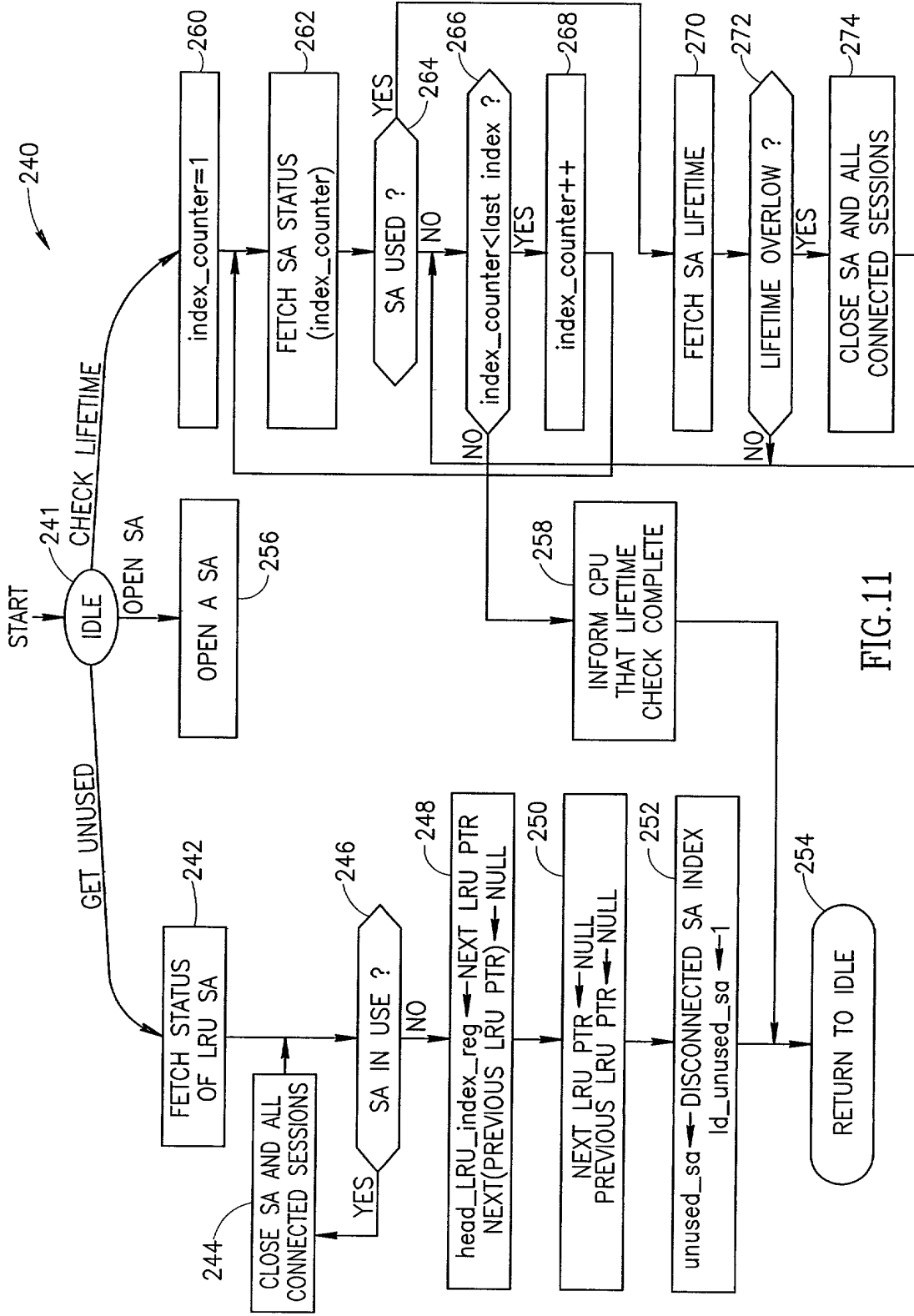
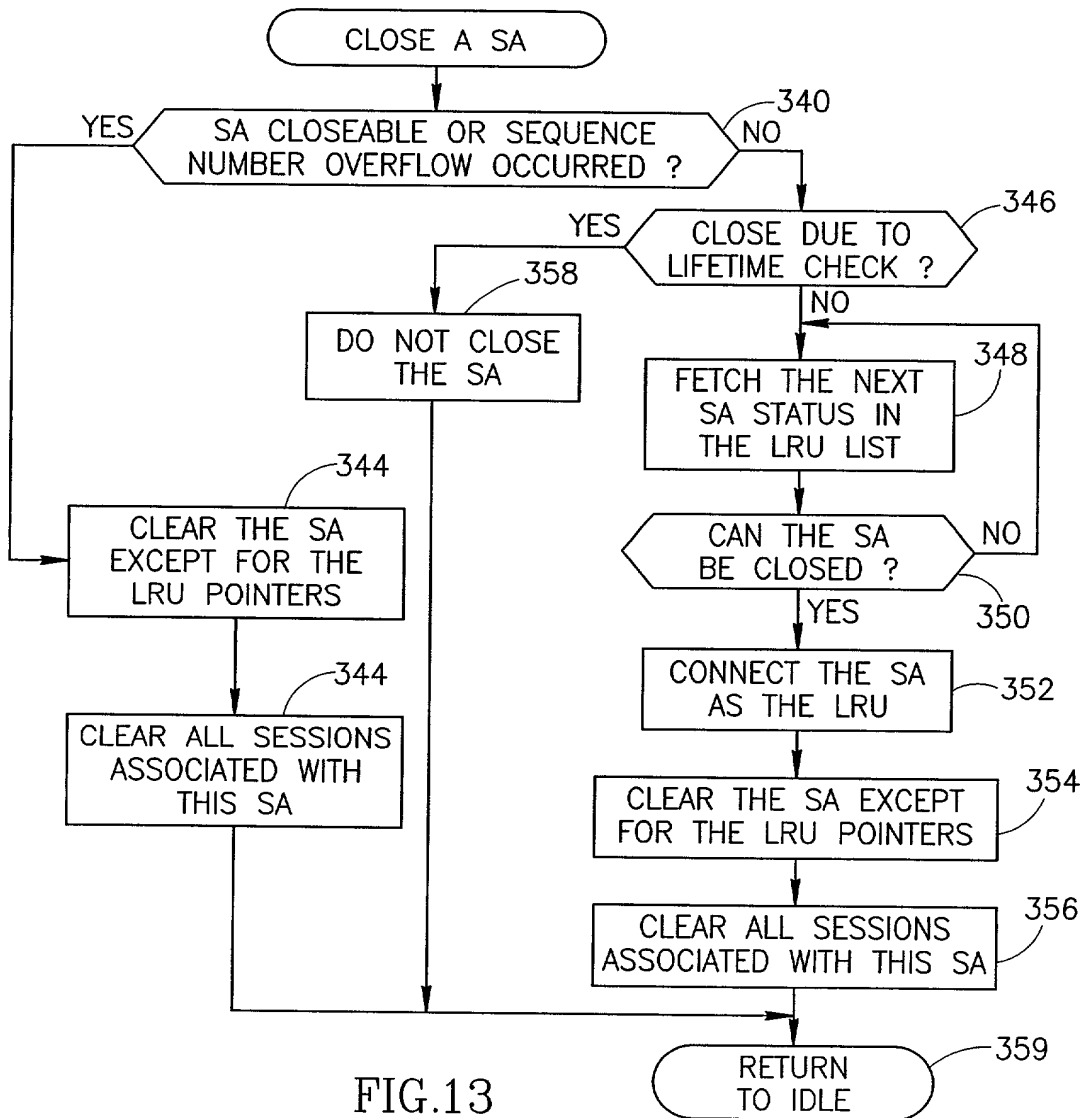
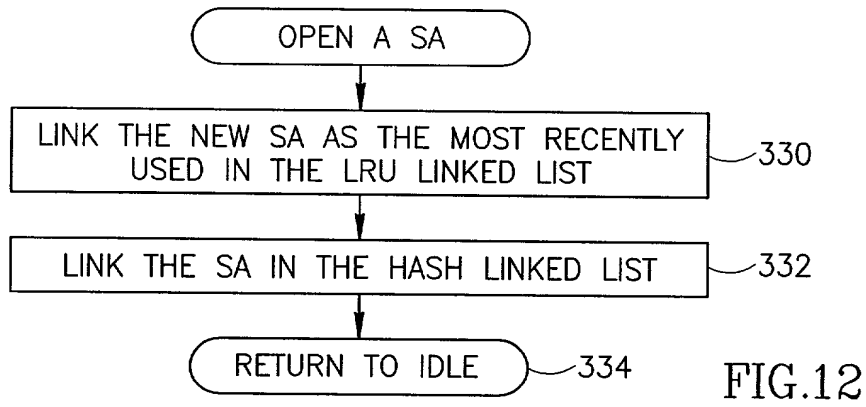


FIG.11



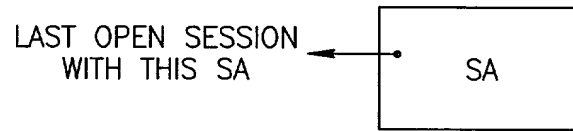


FIG.14

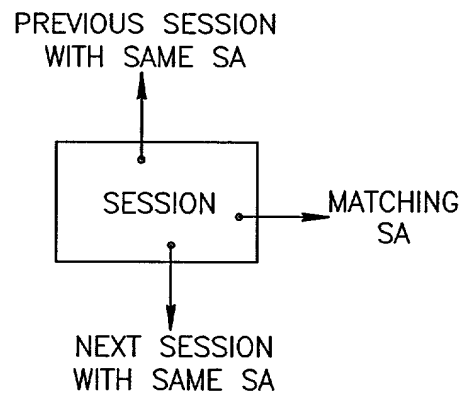


FIG.15

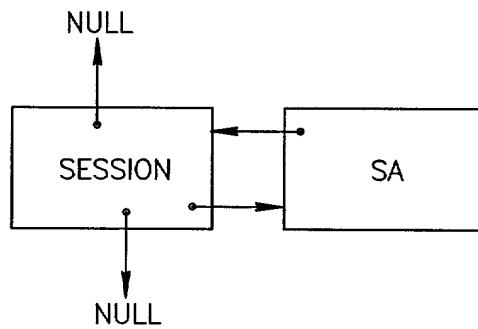


FIG.16

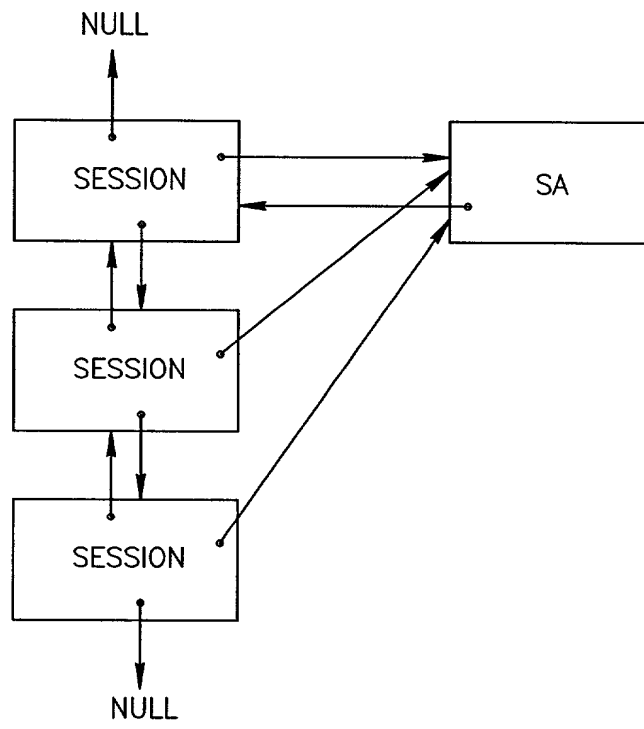


FIG.17

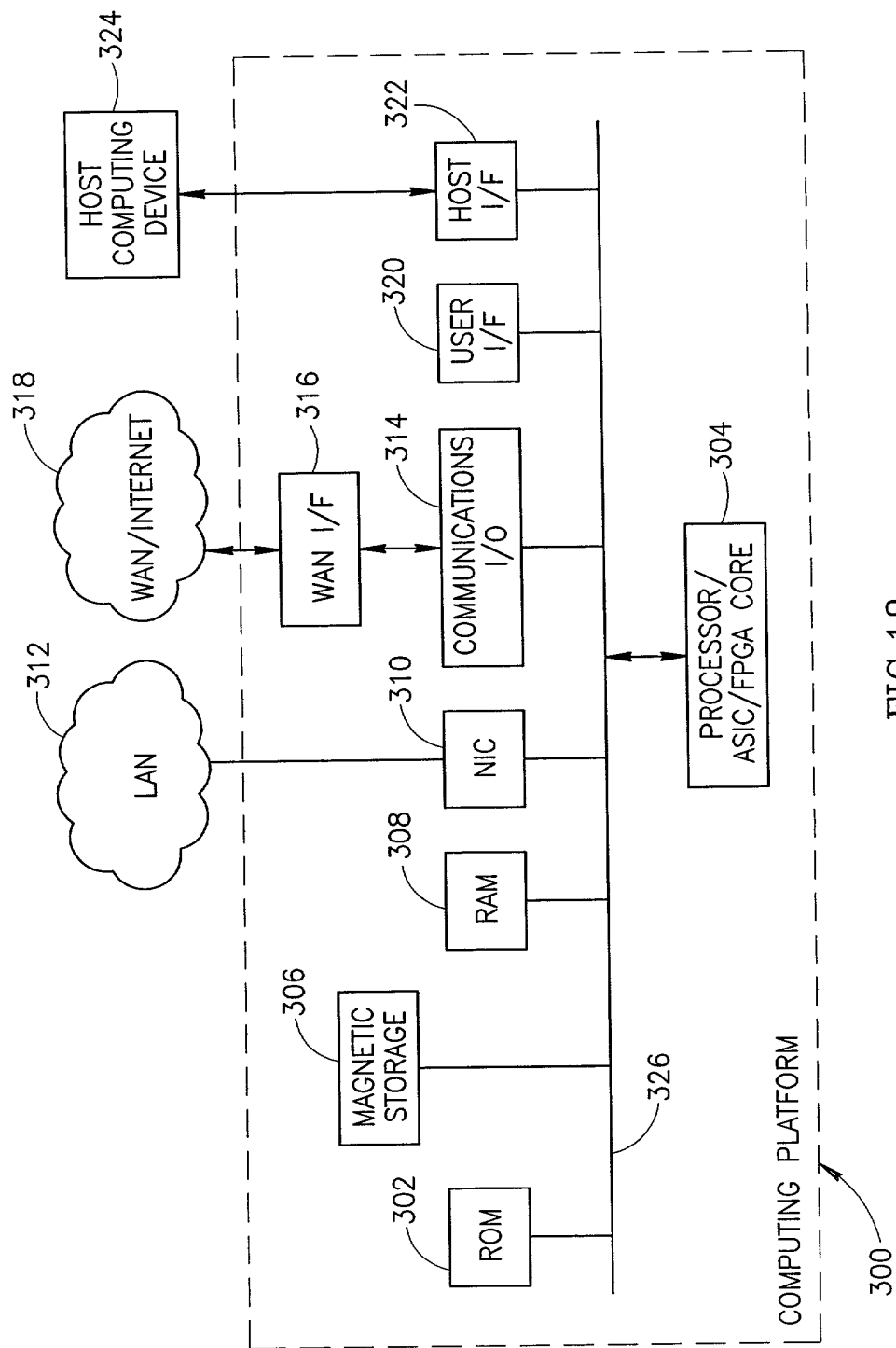


FIG.18